

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method of generating an output document from structured-document information that is described in a structured-document description language and is composed of blocks including a language-type declaration block, a document-type declaration block and a document entity block, said method comprising the steps of:

inputting document information from a document information source;
reading the blocks in said input document information;
analyzing tags and elements in the document entity according to the rule defined by the document-type declaration to convert the document entity to a tree structure;
evaluating a degree of significance for each element;
adding a result of the evaluation to the tree structure; and
generating the output document by reducing an information content of the input document information according to the result added to the tree structure.

2. (Original) The method as claimed in claim 1, further comprising the step of outputting said output document to an image outputting device or an image transmission device.

3. (Original) The method as claimed in claim 2, wherein said image outputting device is a printing device or a display device, and said image transmission device is a facsimile device.

4-51. (Canceled)

52. (Previously presented) The method as claimed in claim 1, wherein said step of generating the output document includes steps of selecting an element among said plurality of elements in a decreasing significance order; and placing the selected element on said output document.

53. (Previously presented) The method as claimed in claim 1, wherein said evaluating step includes a step of evaluating a degree of significance of each element based on significance defining information described in said document information.

54. (Previously presented) The method as claimed in claim 1, wherein said evaluating step includes a step of evaluating a degree of significance of each element based on a fixed significance-evaluating standard.

55. (Previously presented) The method as claimed in claim 1, wherein said step of generating the output document includes a step of limiting the element to be placed on said output document, based on a predetermined page size and a predetermined number of pages of said output document.

56. (Previously presented) The method as claimed in claim 55, wherein said limiting step includes a step of limiting the element to be placed on said output document so that a total space occupied by one or a plurality of selected elements on said output document is less than or equal to a space limit determined by the page size and the number of pages.

57. (Previously presented) The method as claimed in claim 56, wherein said limiting step includes a step of continuing selecting the element until said total space

exceeds said space limit; and eliminating a most-recently selected element from said output document.

58. (Previously presented) The method as claimed in claim 56, wherein said limiting step includes a step of continuing selecting the element until said total space exceeds said space limit; reducing a size of at least a part of said one or said plurality of selected elements so that said total space becomes less than or equal to said space limit; and placing said one or said plurality of selected elements on said output document.

59. (Previously presented) The method as claimed in claim 1, wherein said step of generating the output document includes a step of eliminating an element whose degree of significance is lower than a specific significance level.

60. (Previously presented) The method as claimed in claim 59, wherein said specific significance level differs with an attribute of said each element.

61. (Previously presented) The method as claimed in claim 60, wherein the specific significance level of a non-text element is higher than that of a text element.

62. (Previously presented) The method as claimed in claim 1, wherein said step of generating the output document includes steps of: keeping a text element; and eliminating a non-text element.

63. (Previously presented) The method as claimed in claim 1, wherein said step of generating the output document includes a step of compressing a non-text element by using a compression method corresponding to the degree of significance of said non-text element.

64. (Previously presented) The method as claimed in claim 1, wherein said step of generating the output document includes a step of compressing a non-text element at a compression rate corresponding to the degree of significance of said non-text element.

65. (Previously presented) The method as claimed in claim 1, wherein said step of generating the output document includes a step of eliminating a text element whose degree of significance is lower than a first significance level; and compressing a non-text element whose degree of significance is lower than a second significance level.

66. (Previously Presented) A document-information processing device for generating an output document from structured-document information that is described in a structured-document description language and is composed of blocks including a language-type declaration block, a document-type declaration block and a document entity block, comprising:

an input unit inputting document information from a document information source;

an evaluation unit for reading the blocks in said input document information, analyzing tags and elements in the document entity according to the rule defined by the document-type declaration, converting the document entity to a tree structure, evaluating a degree of significance of each element, and adding a result of the evaluation to the tree structure; and

a process unit for generating the output document by reducing an information content of the input document information according to the result added to the tree structure.

67. (Previously presented) The document-information processing device as claimed in claim 66, wherein said process unit selects an element among said plurality of elements in a decreasing significance order and places the element on said output document.

68. (Previously presented) The document-information processing device as claimed in claim 66, wherein said evaluation unit evaluates a degree of significance of each element based on significance defining information described in said document information.

69. (Previously presented) The document-information processing device as claimed in claim 66, wherein said evaluation unit evaluates a degree of significance of each element based on a fixed significance-evaluating standard.

70. (Previously presented) The document-information processing device as claimed in claim 66, wherein said process unit limits the element to be placed on said output document, based on a predetermined page size and a predetermined number of pages of said output document.

71. (Previously presented) The document-information processing device as claimed in claim 70, wherein said process unit limits the element to be placed on said output document so that a total space occupied by one or a plurality of selected elements on said output document is less than or equal to a space limit determined by the page size and the number of pages.

72. (Previously presented) The document-information processing device as claimed in claim 71, wherein said process unit continues selecting the element until said

total space exceeds said space limit; and eliminating a most-recently selected element from said output document.

73. (Previously presented) The document-information processing device as claimed in claim 71, wherein said process unit continues selecting the element until said total space exceeds said space limit; reducing a size of at least a part of said one or said plurality of selected elements so that said total space becomes less than or equal to said space limit; and placing said one or said plurality of selected elements on said output document.

74. (Previously presented) The document-information processing device as claimed in claim 66, wherein said process unit eliminates an element whose degree of significance is lower than a specific significance level.

75. (Previously presented) The document-information processing device as claimed in claim 74, wherein said specific significance level differs with an attribute of said each element.

76. (Previously presented) The document-information processing device as claimed in claim 74, wherein the specific significance level of a non-text element is higher than that of a text element.

77. (Previously presented) The document-information processing device as claimed in claim 66, wherein said process unit keeps a text element and eliminates a non-text element.

78. (Previously presented) The document-information processing device as claimed in claim 66, wherein said process unit compresses a non-text element by using a compression method corresponding to the degree of significance of said non-text element.

79. (Previously presented) The document-information processing device as claimed in claim 66, wherein said process unit compresses a non-text element at a compression rate corresponding to the degree of significance of said non-text element.

80. (Previously presented) The document-information processing device as claimed in claim 66, wherein said process unit eliminates a text element whose degree of significance is lower than a first significance level; and compressing a non-text element whose degree of significance is lower than a second significance level.

81. (Previously presented) The document-information processing device as claimed in claim 66, wherein said process unit compresses the elements with a compression rate varied according to a selected process mode.

82. (Currently Amended) A document-information processing device for generating an output document from structured-document information that is described in a structured-document description language and is composed of blocks including a language-type declaration block, a document-type declaration block and a document entity block, comprising:

means for inputting document information from a document information source;

means for reading the blocks in said input document information;

means for analyzing tags and elements in the document entity according to the rule defined by document-type declaration to convert the document entity to a tree structure;

means for evaluating a degree of significance of each element{[::]};

means for adding a result of the evaluation to the tree structure; and

means for generating the output document by reducing an information content of the input document information according to the result added to the tree structure.

83. (Previously Presented) A recording medium readable by a computer, tangibly embodying a program of instructions executable by the computer to generate an output document from structured-document information that is described in a structured document description language and is composed of blocks including a language-type declaration block, a document-type declaration block and a document entity block, said program comprising the steps of:

inputting document information from a document information source;

reading the blocks in said input document information;

analyzing tags and elements in the document entity according to the rule defined by the document-type declaration to convert the document entity to a tree structure;

evaluating a degree of significance for each element;

adding a result of the evaluation to the tree structure; and

generating the output document by reducing an information content of the input document information according to the result added to the tree structure.

84. (New) A method of generating an output document from structured-document information, said method comprising the steps of:

inputting document information from a document information source, said document information being composed a plurality of elements;

evaluating a degree of significance of each element of said input document information;

selecting in succession an element among said plurality of elements of said input document information in a decreasing significance order based on a result of the evaluating step;

generating the output document in which the selected elements are placed in a selecting order in the selecting step; and

outputting the generated output document on a printing device, a display device, or an image transmission device;

wherein in the evaluating step includes the steps of:

determining whether the input document information is XML document information;

reading a document-type declaration and a document entity of the input document information if it is determined that the input document information is XML document information;

separating a tag and an element described in the document entity by using a regulation set in the document-type declaration; and

converting the document entity to a tree structure.

85. (New) A document-information processing device, comprising:

an input unit configured to input document information from a document information source, said document information being composed a plurality of elements;

an evaluation unit configured to evaluate a degree of significance of each element of said input document information;

a process unit configured to select an element among said plurality of elements of said input document information in a decreasing significance order based on an evaluation result of the evaluation unit and generate the output document in which the selected elements are placed in a selecting order; and

an output unit configured to output the generated output document on a printing device, a display device or an image transmission device,

wherein in the evaluation unit includes:

a exterminating unit configured to determine whether the input document information is XML document information;

a reading unit configured to read a document-type declaration and a document entity of the input document information if it is determined that the input document information is XML document information;

a separating unit configured to separate a tag and an element described in the document entity by using a regulation set in the document-type declaration; and

a converting unit configured to convert the document entity to a tree structure.